GEOPOLITICS

Navigating Instability Using a Macro-Diversified Investment Approach

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DEFINING GLOBAL MACRO

Before explaining why global macro strategies are so attractive in the current market environment, let us first provide some high-level understanding of what is meant by "global macro." Macro investors subscribe to a top-down view of the world and allocate risk capital across a broad universe of geographies and exposures including equities, fixed income, currencies, and commodities. True macro investors neither invest nor approach research with a bottom-up lens; instead, they analyze broad macroeconomic trends, themes, and geopolitical opportunities to construct a well-diversified, global investment portfolio.

Global macro strategies are designed to deliver strong risk-adjusted returns without having to rely on rising equity and fixed income markets. Freed from adherence to traditional benchmarks, macro managers take risks only in those markets, currencies, or commodities that they feel are adequately compensated; and they have the flexibility to take risk through either long or short exposures. Some global macro strategies may dynamically manage their (equity) beta exposure, but most macro strategies have a long-term beta expectation ranging from 0.0 to 0.5.

The global macro universe of investment strategies can be broken down into two main approaches—systematic and discretionary. Systematic strategies rely on quantitative or technical models that objectively allocate capital in a structured and mechanical fashion with little to no human discretion (other than what is built into the models themselves). Although a reliance on at least some aspects of quantitative modeling is prevalent throughout the macro investment universe, discretionary strategies significantly utilize qualitative elements in their macro investment process. Discretionary approaches focus on fundamental research and apply proprietary quantitative and qualitative assessments of economic, thematic, and geopolitical influences to subjectively allocate risk.

POTENTIAL BENEFITS OF UTILIZING MACRO STRATEGIES

Global macro investing offers many potential benefits to investors. Macro strategies offer macro diversification—a form of diversification that traditional strategies often struggle to provide—by accessing risks and returns that are uncorrelated to traditional markets and doing so through a differentiated approach characterized by analyzing data and information from a top-down perspective. Adding top-down (macro) capabilities can augment performance through both return enhancement and risk mitigation.

Economic, thematic, and geopolitical influences and trends are often not isolated to one country, region, or asset class. Their influence may span geographies and cut across many markets and currencies simultaneously. A global macro strategy allows for these trends to be efficiently identified and exploited within the portfolio. For example, the commodity super cycle—on the back end of which we now find ourselves—has impacted many emerging and developed economies through oil-price volatility, with consequences across equity markets, fixed income markets, and currencies. Another example, a slowdown in Chinese economic growth, has impacted China and greater Asia as well as its trading partners, their currencies, and commodity markets. A global macro manager who incorporates the impact of these macro influences across all asset classes, regions, and sectors greatly enhances the total diversification of a portfolio.

A key characteristic of macro strategies is the provision for full flexibility to manage these macro risks while taking advantage of opportunities, regardless of where they may arise. Macro strategies are benchmark-agnostic, which means that macro managers will own only those particular markets or currencies they feel are adequately compensated, and they will avoid (or short) those where the risks are not appropriately compensated. They also may take both long and short exposures to navigate investment opportunities that are undervalued or overvalued.

Another advantage of macro strategies is the utilization of exposures—such as currencies and commodities—that often have little to no correlation with traditional markets. The inclusion of one or both of these risk exposures increases the breadth and depth of a portfolio, which then enables macro managers to seek out opportunities or mitigate risks where traditional managers are unable. Table 1 shows a correlation matrix that includes a macro investment approach that expects an equity beta average of 0.35 over time, and provides a quantitative affirmation of this diversification benefit. The matrix reflects an equilibrium (or normal) state of risk that is both forward-looking and very long-term in its orientation.

Many investors rightly have concerns about the liquidity profile of nontraditional investment strategies. For investments such as private equity, infrastructure, and real estate, an investor's capital is often locked into the strategy for a long period of time. Other alternative strategies attempt to capture returns in assets that are in and of themselves inherently illiquid, such as distressed assets. Global macro strategies, however, typically have an attractive liquidity profile because the underlying markets and instruments utilized are all very liquid themselves. This is a benefit for those investors who are seeking diversification without wanting to sacrifice liquidity.

As noted in figure 1, given the liquidity spectrum of nontraditional investment strategies, global macro portfolios are among the most liquid that are available to investors.

AN APPROACH TO GLOBAL MACRO

Consider the employment of a discretionary global macro approach that has the following defining characteristics:

- Long-term, fundamental value foundation
- Fundamental opportunities viewed through thematic and geopolitical risk lenses, among others
- Discretionary strategy setting
- Extensive use of active currency management
- Dynamic risk deployment

These characteristics are borne out of a top-down, multi-asset investment process.

This investment process can be summarized in three stages: Where, Why, How (see figure 2).

WHERE: IDENTIFICATION OF VALUE TO PRICE DISCREPANCIES

Focusing on top-down fundamentals, we seek to identify, evaluate, and benefit from the correction of discrepancies between fundamental value and price. Value is determined using proprietary discounted cash flow models for equity and bond markets and a proprietary relative purchasing power parity framework for currencies. Once fundamental value is determined, we observe current price to identify investment opportunities,

Table 1

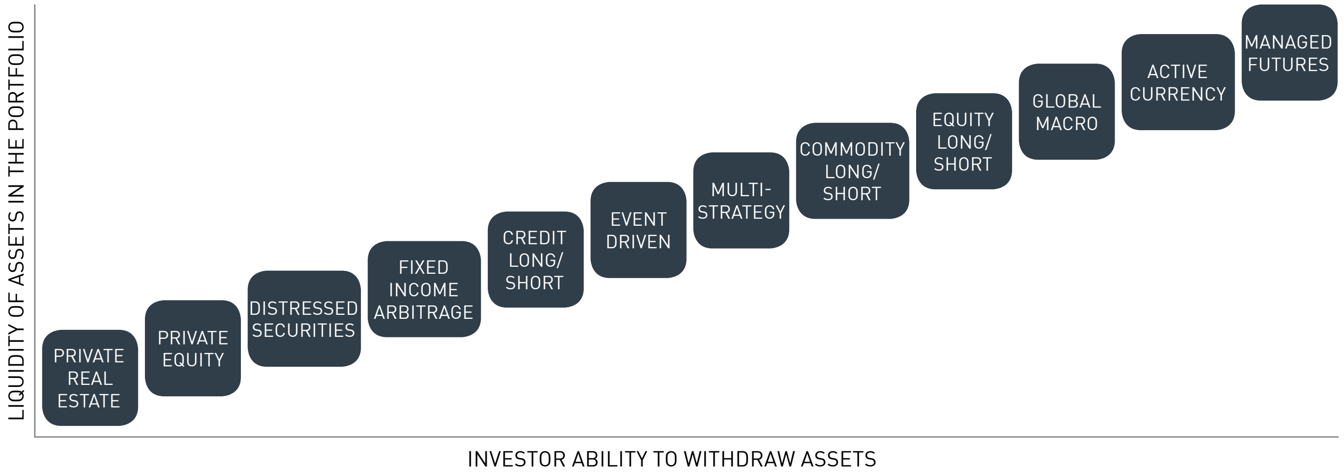
ASSET CLASS CORRELATION MATRIX

	U.S. Equity	Ex-U.S. Developed Equity	Emerging Equity	U.S. Government Bonds	U.S. Investment Grade Corporates	Emerging Market Debt (USD)	Commodities	Infrastructure	Private Equity	Real Estate	Macro Diversified
U.S. Equity	1.0	1.0	0.9	0.2	0.2	0.3	0.0	0.4	0.9	0.4	0.6
Ex-U.S. Developed Equity	1.0	1.0	0.9	0.2	0.2	0.3	0.0	0.4	0.9	0.4	0.6
Emerging Equity	0.9	0.9	1.0	0.2	0.2	0.2	0.0	0.3	0.8	0.3	0.6
U.S. Government Bonds	0.2	0.2	0.2	1.0	1.0	0.7	0.0	0.2	0.0	0.2	0.4
U.S. Investment Grade Corporates	0.2	0.2	0.2	1.0	1.0	0.7	0.0	0.2	0.0	0.2	0.4
Emerging Market Debt (USD)	0.3	0.3	0.2	0.7	0.7	1.0	0.0	0.2	0.1	0.2	0.3
Commodities	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Infrastructure	0.4	0.4	0.3	0.2	0.2	0.2	0.0	1.0	0.3	0.2	0.3
Private Equity	0.9	0.9	0.8	0.0	0.0	0.1	0.0	0.3	1.0	0.3	0.5
Real Estate	0.4	0.4	0.3	0.2	0.2	0.2	0.0	0.2	0.3	1.0	0.2
Active Currency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Macro Diversified	0.6	0.6	0.6	0.4	0.4	0.3	0.0	0.3	0.5	0.2	1.0

Source: William Blair

Figure 1

LIQUIDITY PROFILE OF ALTERNATIVE STRATEGIES



Source: Altegris, "The Case for Liquid Alternative Investments," June 2012, and William Blair

defined as large discrepancies between the estimate of a market's or currency's value and its current price.

Currencies are a poorly understood and little-recognized component in investment management. The conventional wisdom among market participants is that it is difficult to establish a fundamental value for exchange rates or consistently earn a positive return using fundamental value as a point of orientation. Naturally, these perceptions keep the widespread exploitation of fundamental currency opportunities a relatively rare phenomenon within the competitive landscape. But empirical evidence shows that the conventional wisdom is incorrect and demonstrates that the pull of fundamental value is actually stronger and quicker for exchange rates than for equities or bonds. Figure 3 highlights this phenomenon using a sample of currencies and equity markets.

Currencies also have little-to-no correlation with equities and bonds over longer-term horizons, leading to the natural conclusion that currencies are a powerful diversifier. The combination of the strong value-reversion characteristics and the diversification benefits are

Figure 2

GLOBAL MACRO INVESTMENT PROCESS

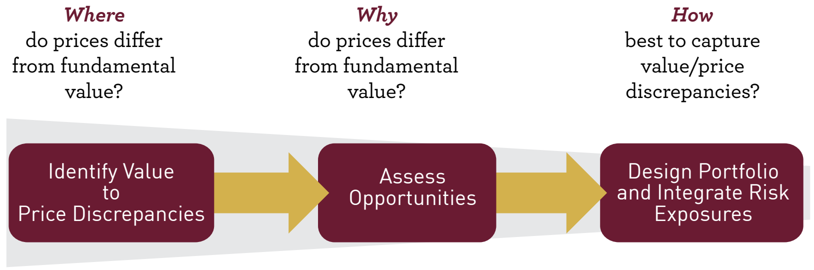
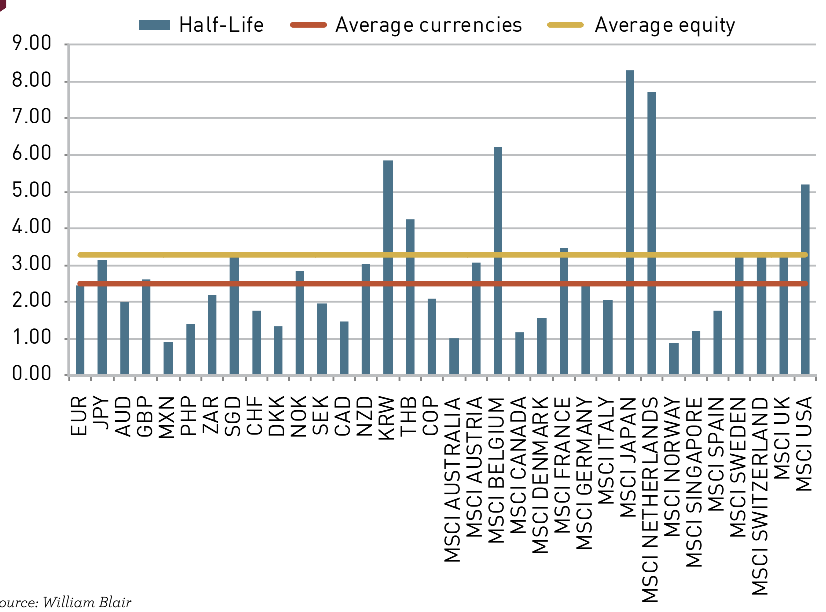


Figure 3

HALF-LIFE OF PRICE REVERSION TO VALUE



Source: William Blair

reasons to consider taking a larger amount of active currency risk than the marginal investor might otherwise contemplate.

Fundamental value is often referred to as the "tide" that raises and lowers all boats, or the beacon to which price gravitates over intermediate-term horizons. This foundation of stable, forward-looking information contrasts with other approaches that focus primarily on "waves," such as macro themes and geopolitics, or "ripples," which equate to the noise emanating from hundreds of talking heads on TV. This process is designed to ride the tides, navigate the waves, and ignore the ripples.

WHY: ASSESS OPPORTUNITIES

Although fundamental value is absolutely necessary as a foundation of our investment process, relying on it alone is not sufficient. We must evaluate and navigate the waves—influences outside of fundamentals that can materially impact the path that prices take to converge on value. These influences can act as tailwinds or headwinds to price converging on value over shorter- to medium-term horizons.

In order to evaluate why prices differ from value, it's useful to think of ways to exploit the following three frameworks. These analytical frameworks are instrumental in structuring the dialogue regarding a potential investment.

Conventional wisdom is a multi-dimensional assessment of recent economic activity, monetary policy, and the degree of risk aversion across a number of geographical regions. This provides insight into the sentiment of the market and an idea of what is already being priced in by other investors.

Macro themes are identified that cut across asset classes and geographies, typically lasting for multiple years. These thematic influences are modeled as risk factors than can alter compensation, risk, or correlations in our short-term risk model. These themes can evolve over time changing both in intensity and how they directionally influence certain markets and currencies.

Game theory is used to understand geopolitical situations and developments such as conflicts, strategic negotiations, or elections around the world (see table 2). The Cold War's mutually assured destruction, although intense, provided a geopolitically stable investment environment across non-communist countries for most of the last half of the 20th century. Since the fall of the Soviet Union, investors have faced a geopolitically unstable horizon that spans Iran and Israel, China and Japan, the eurozone, and polarized Democrats and Republicans in the United States. In the past few years, for example, we have witnessed and been forced to navigate geopolitical uncertainty in the eurozone, increasing Russian aggression, continued tensions in the Middle East, the U.K. vote to exit the European Union, and a populist outsider win the U.S. presidency.

Table 2

GEOPOLITICAL ERAS

Pre-Cold War (1900–~1950)	Multi-player Players evolve Incomplete information Mistakes more probable, less costly	Unstable
Cold War (~1950–1980s)	Two players: U.S. and U.S.S.R. Mutually Assured Destruction (MAD) Mistakes improbable, with huge cost	Stable
Post-Cold War (1990s–Present)	Multi-player Players evolve Incomplete information Mistakes more probable, less costly	Unstable

Source: William Blair

Game theory in detail

Fundamental value is the tide that inexorably pulls prices toward it over intermediate- and longer-term time horizons and the waves are shorter-term developments outside of fundamentals that impact market and currency prices. Geopolitical areas of instability are good examples of waves. In our post-Cold War world, geopolitical developments have become larger, more frequent, and more relevant to investing—and because these developments can significantly affect market and currency prices, investors must navigate them.

Applying a game-theoretical framework to organize our analysis, geopolitical developments are viewed as multi-player, multi-stage bargaining games (game theaters). This framework involves identifying the key players of the game, their (primary and secondary) objectives, and the different powers that they can wield to achieve these objectives. Game theory is a set of principles for scrutinizing the strategic interactions of multiple agents acting in their best interests and responding to incentives through cooperation and conflict in anticipation of and in response to other players' actions. The outcomes of strategic negotiations depend on players' objectives, initial bargaining powers, and real-time modes of action.

With the organizing assistance of game-theoretical constructs, we identify, quantify, and analyze these macro forces. As a result, we are more likely to discern truth than see what we want to see. Let's take a look at this process more closely.

First, we identify the players who can influence the outcome of the game and their objectives. An important aspect in assessing the risk associated with the game theater is whether or not objectives are aligned or are conflicting among the players.

Next, we determine the net influence of each player through four bargaining powers:

- Endowment power is an initial resource base such as nuclear weapons or political capital
- Coalition power is the ability to form and alter partnerships to benefit negotiating effectiveness
- Risk tolerance is the willingness of the player to take risks or to move to the brink (negotiations breaking down without resolution)
- Salience is the level of importance of the negotiation to each player

Understanding each player's culture, interests, incentives, and powers assists our comprehension of potential actions and their effectiveness. It does not allow us to predict specific outcomes, but it does add to our understanding of potential displays of power, especially brinkmanship maneuvers that are particularly troubling to market participants. The goal is to position portfolios to benefit from or protect against potential displays, which are often associated with deadlines because they afford natural points of action and nexuses of brinkmanship behavior.

Next, we focus on actual displays of power through the players' actions and reactions, shifting portfolios to potentially benefit from market misinterpretation. Unwarranted market panic or euphoria that results from a misunderstanding of the negotiating process, especially the deliberate creation of risk, gives rise to short-term opportunities to modify the timing and magnitude of investment positions and benefit from the inevitable long-term reversion of market prices to fundamental values.

At each step of the negotiating process, value and price discrepancies are evaluated to gauge whether they afford adequate compensation for the risk that the strategic negotiation presents over the coming weeks, months, or even years. If understanding is sufficient, risk is adequately compensated, and strategies are consistent with our fundamental value signals, the team positions the portfolio to attempt to take advantage of the opportunity or to eliminate the risk.

Importantly, game-theoretical constructs do not enable risk elimination. The soul of strategic negotiation is risk, created and responded to by players who are fallibly human.

This framework for organizing information helps one understand the geopolitical situations within a portfolio and avoid being surprised by developments within the game theater. In short, such geopolitical analysis can help to either avoid risks that the market underappreciates or to take risks where the market is overly cautious.

HOW: PORTFOLIO DESIGN

The final step of the process is to merge the information gathered into an integrated, calibrated portfolio of risk exposures, pursuant to the particular strategy's specified risk budgets. Consider using two forward-looking risk models to guide portfolio construction. First, an "equilibrium" risk model encompasses a long-term view that can be thought of as a normal state of risk. Because a true normal state of risk rarely exists, it's important to also view exposures through an "outlook" risk model, a shorter-term model that originates with the equilibrium view and is then adjusted to arrive at a framework consistent with the risk environment. For example, a hypothetical forward-looking assessment is that equities and bonds have a small positive correlation to one another over the long-term (equilibrium), but in the short-term (outlook) these two asset classes actually could have a negative correlation to one another. Aspects of the Why stage of the process are modeled into the outlook view and directly influence the extent to which the outlook is different from the equilibrium.

As a starting point to portfolio design, we begin by mapping forward-looking views on risk, correlations, and value-to-price profiles for each market and currency by themselves and relative to every other market and currency (a matrix approach). The desired outcome is a calibrated portfolio of exposures based on expected contributions to both return and risk. This approach allows you to allocate risk appropriately within the portfolio and at the aggregate level over time, which is a primary limitation of an optimizer approach. Among the problems with using an optimization approach is that although an optimizer can point an investor to the best (most efficient) return/risk tradeoff at a point in time, it helps with neither how much risk should be taken at any point in time nor with how to consistently allocate risk over time. A matrix approach helps ensure that we will identically allocate risk capital at different points in time given the same environment and parameters.

The resulting suggested allocations—or signals—to each market and currency act only as a first step in portfolio construction. Although the themes and geopolitical scenarios are modeled as risk factors in the outlook risk model, many aspects of the Why stage of the investment process are qualitative and not captured in the matrix process. We embrace the notion that it is impossible to model every single aspect of our analysis efforts. The setting of portfolio exposures, therefore, is a subjective effort and may result in significant deviations from the signals suggested by the matrix. Every aspect of the investment process is a team-based approach but the ultimate decision-making authority resides with the portfolio managers.

Importantly, risk allocation is dynamic. That is, we do not target a specific level of risk at all times; instead we dial the risk level of the portfolio up and down based on the magnitude of fundamental opportunities, as well as the assessment of why those opportunities exist. All else being equal, it's desirable to take more risk when larger fundamental opportunities arise. The matrix incorporates this flexibility, supporting the adoption of more risk when prices are further away from value; but this, too, relies on

Table 3

WHERE + WHY + RISK = HOW

		Where	
		Prices Close to Value	**Prices Far from Value**
Why	**Headwinds**	Below-Average Risk	Average Risk
	Tailwinds	Average Risk	Above-Average Risk

discretionary judgment by the portfolio managers. In addition to dynamically managing risk at the total portfolio level, the strategy also dynamically allocates risk within the portfolio among equities, fixed income, and currencies over time. This approach often stands in stark contrast to other approaches that seek to take an equal amount of risk across component parts of the portfolio and/or to keep the total strategy's risk level constant through time. In fact, we rely on four distinct risk budgets (systematic, unsystematic market, currency, and total) because it allocates risk capital over time. If there are more fundamental opportunities in currency, for example, then the flexibility allows to dynamically move to take more currency risk. Ultimately, all strategies have an expectation of an average level of volatility that lies roughly at the midpoint of the strategy's total risk budget.

Explicit decisions are also made about the use of optionality and the profile of the strategy at any point in time. There are times when it makes sense to be buyers of insurance and employ a more convex profile. Similarly, there are times when a more concave strategy profile is warranted and there is eagerness to be sellers of insurance to capture the valuable premia that the market is providing.

The dynamic risk level of the strategy, and from where that risk comes, can be thought of as an equation: *Where + Why + Risk = How*. If prices are far from value in the Where stage, and there are no headwinds, for example, to price reverting to value, then there's an opportunity to take above-average risk in the portfolio. If there are fewer opportunities, the opportunities are smaller, and/or there are headwinds to those opportunities being realized, for example, then we want to take below-average risk. This concept is summarized in table 3.

CONCLUSION

Macro investors adopt a global, top-down view of the world in which they analyze broad macroeconomic and geopolitical trends to allocate risk across asset classes, geographies, and sectors in an unconstrained fashion. The outcome is a liquid strategy that aims to deliver strong risk-adjusted returns without having to necessarily rely on rising equity or bond markets. When included in a portfolio, macro strategies provide macro diversification that portfolios focused exclusively on bottom-up analysis lack, which can improve portfolio performance through return enhancement or risk mitigation.

A macro approach starts with fundamentals to identify long-term investment opportunities (the tides), utilizes unique frameworks and forward-looking assessments based on experience to navigate the medium-term influences such as macro themes and geopolitics (the waves), and ignores the short-term noise such as headlines or talking heads on TV (the ripples).

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